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IS : 6025 - 1982

Indian Standard
SPECIFICATION FOR
KNIFE SECTIONS FOR
HARVESTING MACHINES
(*First Revision*)

UDC 631.354.022



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR KNIFE SECTIONS FOR HARVESTING MACHINES

(*First Revision*)

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Indian Standard
SPECIFICATION FOR
KNIFE SECTIONS FOR
HARVESTING MACHINES
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 31 December 1982, after the draft finalized by the Harvesting and Threshing Equipment Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Knife sections constitute the major wearing part of the cutting mechanism of harvesting machines. To ensure interchangeability of the knife sections, this standard was first published in 1970. The standard has been revised to make it more implementable.

0.3 In preparation of this standard, assistance has been derived from the Tractor Training and Testing Station (Ministry of Agriculture), Budni, in addition to the following:

ISO/563-1981 Equipment for harvesting-knife sections for agricultural cutter bars. International Organization for Standardization.

BS 1562 : Part 2 : 1973 Specification for agricultural mower and combine-harvester parts : Part 2 Metric units. British Standards Institution.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies material, dimensional and other requirements for knife sections used in harvesting machines.

*Rules for rounding off numerical values (*revised*).

2. TYPES

2.1 The knife sections shall be plain or serrated.

3. MATERIAL

3.1 The knife sections shall be manufactured from steel having the following chemical composition or such other composition as shall be agreed to between the supplier and the purchaser:

- a) Carbon 0.70 to 0.95 percent, and
- b) Manganese 0.3 to 0.5 percent.

4. HARDNESS

4.1 The hardened zone (see hatched portion in Fig. 1) shall have a hardness in the range of 48 to 58 HRC or in other equivalent hardness number.

4.1.1 The remainder zone shall have a hardness in the range of 20 to 35 HRC.

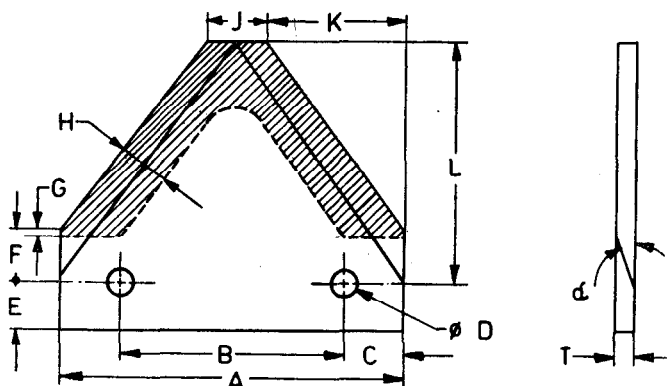


FIG. 1 DIMENSIONS OF KNIFE SECTIONS

5. DIMENSIONS

5.1 The dimensions of knife sections when read in conjunction with Fig. 1 shall be as given in Table 1.

5.2 The serrations, if provided, may be at the top or at the bottom. The dimensions of serrations shall be as given in Fig. 2.

TABLE 1 DIMENSIONS OF KNIFE SECTIONS

(Clause 5.1)

(All the dimensions except α are in millimetre)

SL No.	DESIGNATION	DIMENSION	TOLERANCE
(1)	(2)	(3)	(4)
i)	<i>A</i>	76.2	-0.2 -0.4
ii)	<i>B</i>	{ 50.8 (51.5) (52.5)	± 0.1
iii)	<i>C</i>	{ 12.7 (11.85)	± 0.1
iv)	<i>D</i>	5.5	+0.2 -0
v)	<i>E</i>	9.5 <i>Min</i>	—
vi)	<i>F</i>	9 <i>Min</i>	—
vii)	<i>G</i>	0.8 <i>Min</i>	—
viii)	<i>H</i>	11	± 0.5
ix)	<i>J</i>	12.5 <i>Min</i>	—
x)	<i>K</i>	{ 31.8 (30.6)	± 0.25
xi)	<i>L</i>	65	± 0.5
xii)	<i>T</i>	2.0 <i>Min</i>	—
xiii)	α	19°	$\pm 1^\circ$

NOTE — The dimensions given in parentheses against *B*, *C* and *K* are non-preferred dimensions.

6. OTHER REQUIREMENTS

6.1 The knife section shall be straight swaged and ground on the underside.

6.2 The cutting face of the knife sections shall be flat or not more than 0.3 mm concave.

6.3 The section shall have two holes. The holes may be plain or countersunk.

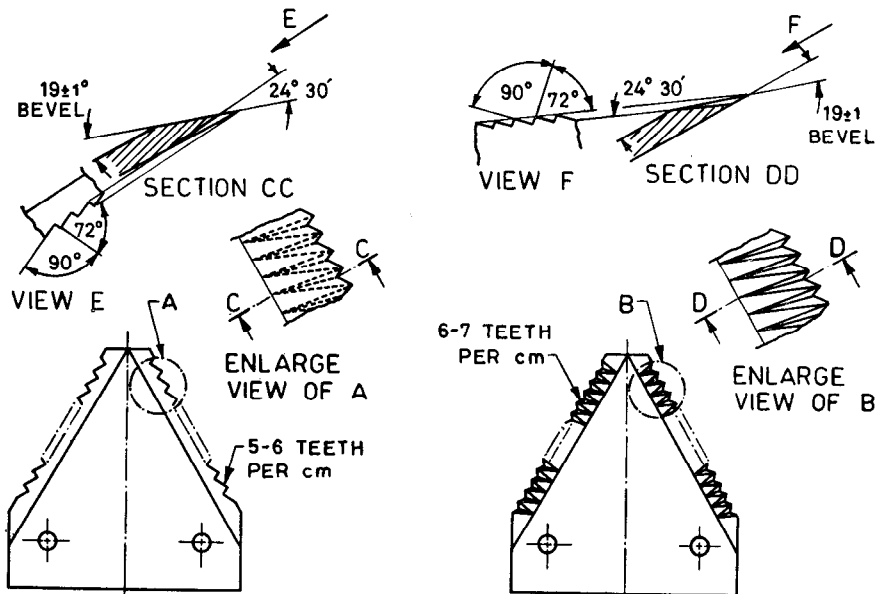


FIG. 2 SERRATIONS OF KNIFE SECTIONS

7. WORKMANSHIP AND FINISH

7.1 Plain sections shall be ground to a sharp edge and shall be free from burrs. The edges formed by the teeth of serrated sections shall be sharp.

7.2 After heat treatment, the sections shall be cleaned and polished.

7.3 The sections may be given a coat of thin anticorrosive varnish.

8. MARKING AND PACKING

8.1 **Marking** — Each section shall be marked with the following particulars on the upper side of the sections, in the space between two holes:

- a) Manufacturer's name or recognized trade-mark,
- b) Batch or code number, and
- c) Type and thickness.

8.1.1 Each section may also be marked with the ISI Certification Mark.

NOTE—The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

8.2 Packing — The knife sections of a particular type and thickness shall be packed for safe handling in transit, as agreed to between the purchaser and the supplier.

9. SAMPLING FOR LOT ACCEPTANCE

9.1 Unless otherwise agreed to between the purchaser and the supplier, the method of sampling for lot acceptance shall be as given in 3 of IS: 7201-1974*.

*Method of sampling of agricultural machinery and tractors.

INDIAN STANDARDS
ON
HARVESTING AND THRESHING EQUIPMENT

IS:

- 3153-1979 Olpad thresher (*first revision*)
- 3327-1982 Pedal-operated paddy thresher (*first revision*)
- 4358-1967 Sickles
- 6024-1970 Guards for grain harvesting machines
- 6284-1975 Test code for stationary power thresher for wheat (*first revision*)
- 6320-1971 Wheat power thresher (hammer mill type)
- 7789-1975 Sugarcane stripper
- 8122 (Part I)-1976 Test code for combine-harvester-thresher: Part I Terminology
- 8122 (Part II)-1981 Test code for combine-harvester-thresher: Part II Performance tests
- 9019-1979 Code of practice for installation, operation and preventive maintenance of power threshers
- 9020-1979 General and safety requirements for power threshers
- 9129-1979 Technical requirements for safe feeding systems for power threshers
- 9826-1981 Glossary of terms relating to harvesting and threshing equipment
- 9877-1981 Code of practice for installation, operation and preventive maintenance of grain combine
- 10205-1982 Cotton stalk puller

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